FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	M02868A Roll off No.1	Client:	Alaskan Copper Works
Date Received:	08/21/08	Project:	PO M02868, F&BI 808220
Date Extracted:	08/25/08	Lab ID:	808220-01
Date Analyzed:	08/25/08	Data File:	808220-01.059
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	hr

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	97	60	125
Indium	95	60	125
Holmium	100	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	52.3
Arsenic	<1
Selenium	<1
Silver	<1
Cadmium	<1
Barium	6.45
Lead	4.03

Analysis For Total Metals By EPA Method 200.8

Client ID:	M02868B Roll off No.1	Client:	Alaskan Copper Works
Date Received:	08/21/08	Project:	PO M02868, F&BI 808220
Date Extracted:	08/25/08	Lab ID:	808220-02 x10
Date Analyzed:	08/25/08	Data File:	808220-02 x10.061
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	hr

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	99	60	125
Indium	93	60	125
Holmium	101	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	12,000
Arsenic	14.5
Selenium	<10
Silver	<10
Cadmium	<10
Barium	75.4
Lead	182

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	M02868B Roll off No.1	Client:	Alaskan Copper Works
Date Received:	08/21/08	Project:	PO M02868, F&BI 808220
Date Extracted:	08/25/08	Lab ID:	808220-02
Date Analyzed:	08/25/08	Data File:	808220-02.063
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	hr

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	162 vo	60	125
Indium	89	60	125
Holmium	95	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	73,900 J
Arsenic	15.5
Selenium	<1
Silver	2.04
Cadmium	1.96
Barium	72.0
Lead	174

Analysis For Total Metals By EPA Method 200.8

Client ID:	M02868C Roll off No.2	Client:	Alaskan Copper Works
Date Received:	08/21/08	Project:	PO M02868, F&BI 808220
Date Extracted:	08/25/08	Lab ID:	808220-03
Date Analyzed:	08/25/08	Data File:	808220-03.060
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	hr

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	109	60	125
Indium	94	60	125
Holmium	100	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	1,190
Arsenic	5.34
Selenium	<1
Silver	<1
Cadmium	4.85
Barium	31.2
Lead	71.3

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Alaskan Copper Works
Date Received:	Not Applicable	Project:	PO M02868, F&BI 808220
Date Extracted:	08/25/08	Lab ID:	I8-329 mb
Date Analyzed:	08/25/08	Data File:	I8-329 mb.044
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm)	Operator:	hr

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	111	60	125
Indium	111	60	125
Holmium	111	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	<1
Arsenic	<1
Selenium	<1
Silver	<1
Cadmium	<1
Barium	<1
Lead	<1

Date of Report: 08/28/08
Date Received: 08/21/08
Project: PO M02868, F&BI 808220

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 200.8

Laboratory Code: 806225-09 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Chromium	mg/kg (ppm)	22.6	22.8	1	0-20
Arsenic	mg/kg (ppm)	8.42	8.91	6	0-20
Selenium	mg/kg (ppm)	<1	<1	nm	0-20
Silver	mg/kg (ppm)	<1	<1	nm	0-20
Cadmium	mg/kg (ppm)	<1	<1	nm	0-20
Barium	mg/kg (ppm)	196	190	3	0-20
Lead	mg/kg (ppm)	15.6	16.5	6	0-20

Laboratory Code: 806225-09 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Chromium	mg/kg (ppm)	50	22.6	91 b	50-150
Arsenic	mg/kg (ppm)	10	8.42	113 b	50-150
Selenium	mg/kg (ppm)	5	<1	92	50-150
Silver	mg/kg (ppm)	10	<1	101	50-150
Cadmium	mg/kg (ppm)	10	<1	107	50-150
Barium	mg/kg (ppm)	50	196	93 b	50-150
Lead	mg/kg (ppm)	50	15.6	102 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Chromium	mg/kg (ppm)	50	105	70-130
Arsenic	mg/kg (ppm)	10	121	70-130
Selenium	mg/kg (ppm)	5	105	70-130
Silver	mg/kg (ppm)	10	106	70-130
Cadmium	mg/kg (ppm)	10	105	70-130
Barium	mg/kg (ppm)	50	103	70-130
Lead	mg/kg (ppm)	50	105	70-130

Date of Report: 08/28/08
Date Received: 08/21/08
Project: PO M02868, F&BI 808220
Date Extracted: 08/25/08
Date Analyzed: 08/27/08

RESULTS FROM THE ANALYSIS OF THE SOIL SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Total Mercury
M02868A Roll off No.1 808220-01	<0.2
M02868B Roll off No.1 808220-02	0.30
M02868C Roll off No.2 808220-03	<0.2
Method Blank	<0.2

Date of Report: 08/28/08
Date Received: 08/21/08
Project: PO M02868, F&BI 808220

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 806225-09 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	0.125	<0.2	95	106	50-150	11

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	0.125	97	70-130

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 – More than one compound of similar molecule structure was identified with equal probablility.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - The analyte indicated was found in the method blank. The result should be considered an estimate.

fc – The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - The sample was extracted outside of holding time. Results should be considered estimates.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j – The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc – The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr – The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - The value reported exceeded the calibration range established for the analyte. The reported concentration should be considered an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The pattern of peaks present is not indicative of diesel.

y - The pattern of peaks present is not indicative of motor oil.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Charlene Morrow, M.S.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

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DUPLICATE

August 28, 2008

INVOICE #08ACU0828-2

Accounts Payable
Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

RE: Project PO M02868, F&BI 808220 - Results of testing requested by Gerry Thompson for material submitted on August 21, 2008.

3 samples analyzed for RCRA Metals by Method 200.8/1631E @ $156 per sample	$ 468.00
Rush Charges (4 day) 60% of $468.00	280.80
Amount Due	$ 748.80

FEDERAL TAX ID # (b) (6)

808220 ME 08/21/08 AIK

SAMPLE CHAIN OF CUSTODY

Send Report To Gerard Thompson
Company ALASKAN Copper Works
Address 628 S. Hanford St
City, State, ZIP Seattle WA 98134
Phone # 206-571-6053 Fax # 206-382-4305

SAMPLERS (signature)

PROJECT NAME/NO: Parking Lot Sweeping
PO #: M02868

REMARKS

Page # ____ of ____

TURNAROUND TIME
☐ Standard (2 Weeks)
☒ RUSH 2 day
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Dispose after 30 days
☐ Return samples
☐ Will call with instructions

Sample ID	Lab ID	Date	Time	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	RCRA 8					Notes
M02868A	01	8/20/08	1:30pm	Soil	1							X					
Roll off #1																	
M02868B	02	8/20/08	1:32pm	Soil	1							X					
Roll off #1																	
M02868C	03	8/20/08	1:32pm	Soil	1							X					
Roll off #2																	

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Gerard Thompson	ACW	8/21/08	1:52pm
Received by:		Khan Khan	FEBI	8/21/08	1:52pm
Relinquished by:					
Received by:					

Samples received at 23 °C

Friedman & Bruya, Inc.
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FORMS\COC\COC.DOC

FRIEDMAN & BRUYA, INC.

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August 28, 2008

Gerry Thompson, Project Manager
Alaskan Copper Works
628 South Hanford
Seattle, WA 98134

Dear Mr. Thompson:

Included are the results from the testing of material submitted on August 21, 2008 from the Parking Lot Sweeping, PO M02868, F&BI 808220 project. There are 9 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
ACU0828R.DOC